

LE “LOUIE” CAI

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I am a undergraduate student at UC San Diego studying Data Science with a strong foundation and interest in machine learning, software development, and data analysis, enhanced by practical experience through internship and projects.

EDUCATION

University of California, San Diego, Data Science B.S.

Sept 2020 – Jun 2024 (Planned)

- **GPA:** 3.7
- **Minor:** Computer Engineering
- **Relevant Coursework:** Machine Learning, Deep Learning, NLP, Data Analysis, Computer Organization and Systems Programming, Data Structures & Object-Oriented Design, Differential Equations, Linear Algebra, Probability and Statistics, Discrete Mathematics, Components and Design Techniques for Digital Systems

EXPERIENCE

Software Development Engineer Intern | Amazon

Jun – Sept 2023

- Utilized React and TypeScript to streamline backend database onboarding with a front-end internal tool.
- Collaborated in an Agile team to ensure responsive and user-friendly interfaces.
- Optimized tool performance using Git, resulting in significantly improved loading times.

CSE Tutor - CSE 8A | UC San Diego

Sept – Dec 2023

- Held office hours and helped students with their questions
- Created scripts to generate class grades from different data sources

PROJECTS

Tiktok Reddit Video Automator

Aug – Dec 2022

- Developed a Python-based automation tool for downloading trending videos from various subreddits using Reddit's API, and for uploading them to TikTok using Selenium.
- Configured and deployed the script on a server for automated video posting, featuring customizable options like rest intervals and subreddit targeting.

Convolutional Neural Network Image Classification

Feb 2022

- Engineered custom convolutional neural networks using PyTorch to classify 20 distinct categories of food images.
- Led the development and training of the neural network with PyTorch and CUDA, systematically refining network performance through architectural adjustments and hyperparameter tuning.
- Visualized and conducted in-depth analysis of feature maps and filters using Matplotlib.

Minecraft Mod Development

Jun – Dec 2020

- Achieved over **2.9 million** downloads on [CurseForge](#) for the Minecraft plugin developed.
- Engineered a plugin to enhance the player experience in Minecraft by introducing interactive in-game items.

ACTIVITIES

IEEE F1TENTH IV2023 Championship - Anchorage

Jun 2023

- Constructed two autonomous 1/10 scale RC cars, each equipped with LiDAR sensors and cameras, enabling precise navigation on a racetrack.
- Led the development of advanced navigation algorithms using ROS2 and DonkeyCar.
- Represented UC San Diego and secured fourth place in the championship.

SKILLS

- **Programming Languages:** Python, R, SQL, Java, C, C++, C#, Bash, HTML, CSS, Typescript
- **Machine Learning/Big Data:** Machine Learning, Deep Learning, pandas, NumPy, matplotlib, scikit-learn, PyTorch, BeautifulSoup4, Request, Selenium, Plotly, FastAPI
- **Framework/Tools:** React, JavaFX, Unity, Linux, Docker, Blender, Gradle, Vim, Git, Jupyter